

## § 120.324

operated in parallel with another generator when the installation meets §§111.12–11(f), and 111.30–25(d) in subchapter J of this chapter.

### § 120.324 Dual voltage generators.

(a) A dual voltage generator installed on a vessel shall be of the grounded type, where:

(1) The neutral of a dual voltage system must be solidly connected at the switchboard's neutral bus; and

(2) The neutral bus shall be connected to ground.

(b) The neutral of a dual voltage system must be accessible for checking the insulation resistance of the generator to ground before the generator is connected to the bus.

(c) Ground detection must be provided that:

(1) For an alternating current system, meets §111.05–27 in subchapter J of this chapter; and

(2) For a direct current system, meets §111.05–29 in subchapter J of this chapter.

### § 120.330 Distribution panels and switchboards.

(a) Each distribution panel and switchboard must be in as dry a location as practicable, adequately ventilated, and protected from falling debris and dripping or splashing water.

(b) Each distribution panel or switchboard must be totally enclosed and of the dead front type.

(c) Each switchboard must have nonconductive handrails.

(d) Each switchboard must be fitted with a dripshield.

(e) Distribution panels and switchboards that are accessible from the rear must be constructed to prevent a person from accidentally contacting energized parts.

(f) Working space must be provided around all main distribution panels and switchboards of at least 610 millimeters (24 inches) in front of the switchboard, and at least 455 millimeters (18 inches) behind the switchboard. Rear access is prohibited when the working space behind the switchboard is less than 455 millimeters (18 inches).

(g) Nonconducting mats or grating must be provided on the deck in front of each switchboard and, if accessible

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from the rear, on the deck in the rear of the switchboard.

(h) All uninsulated current carrying parts must be mounted on noncombustible, nonabsorbent, high dielectric insulating material.

(i) Equipment mounted on a hinged door of an enclosure must be constructed or shielded so that a person will not accidentally contact energized parts of the door mounted equipment when the door is open and the circuit energized.

(j) In the design of control, interlock, or indicator circuit, the disconnect device and its connections, including each terminal block for terminating the vessel's wiring, must not have electrically unshielded or uninsulated surfaces.

(k) Switchboards and distribution panels must be sized in accordance with §111.30–19 in subchapter J of this chapter.

[CGD 85–080, 61 FR 928, Jan. 10, 1996; 61 FR 20556, May 7, 1996]

### § 120.340 Cable and wiring requirements.

(a) If individual wires, rather than cables, are used in systems greater than 50 volts, the wire must be in conduit.

(b) All cable and wire must:

(1) Have stranded copper conductors with sufficient current carrying capacity for the circuit in which they are used;

(2) Be installed in a manner to avoid or reduce interference with radio reception and compass indication;

(3) Be protected from the weather;

(4) Be installed with metal supports spaced not more than 610 millimeters (24 inches) apart, and in such a manner as to avoid chafing and other damage. The use of plastic tie wraps must be limited to bundling or retention of multiple cable installations, and not used as a means of support;

(5) Not be installed with sharp bends;

(6) Be protected by metal coverings or other suitable means if in areas subject to mechanical abuse. Horizontal pipes used for protection shall have 6 millimeter (.25 inch) holes for drainage every 1,520 millimeters (5 feet);